

Rice Bran Oil Plant Microwave Drying Equipment



Microwave Drying Equipment:

Electromagnetic radiation drying is to use the electromagnetic induction or infrared radiation effect of microwave to heat and dry materials. Different from other external heating drying methods, this drying method is a method of uniform heating from both outside and inside of the material. Therefore, this drying method has a short time, does not deteriorate or coke due to overheating, and its drying products are of good quality, especially the drying effect of heat-sensitive food is more satisfactory.

The microwave drying system is mainly composed of microwave generator, power supply, waveguide device, heater, cooling system, transmission system and control system. The microwave tubes used for heating and drying are mainly klystrons and magnetrons. Klystron is often used in high frequency or high power applications. Microwave generated by microwave tube is transmitted to heater through waveguide device. The heaters are mainly box type, plate type and waveguide type.



Characteristics of [Rice Bran Oil Plant Microwave Drying Equipment](#):

Microwave drying is an efficient, energy-saving, stable, reliable, simple equipment, easy operation and new technology. Microwave dryer is characterized by continuous production of equipment, only need electricity, no need for other energy, can quickly dry materials, equipment occupies a small area, pollution-free, simple operation; no need for preheating and no energy loss after shutdown. Less labor, high quality products. The advanced equipment is a high-tech product which can not be replaced by other equipment.



Heating Principle of Microwave Dryer: Microwave refers to electromagnetic waves with frequencies ranging from 300 MHz to 300 MHz. The water molecule in the heated medium material is a polar molecule. Under the fast changing high frequency electromagnetic field, its polar orientation will change with the change of external electric field, resulting in the movement of molecules and mutual friction effect. At this time, the field energy of microwave field can be transformed into heat energy in the medium, which makes the material temperature rise, and produces a series of physical and chemical processes, such as heating and expansion, to achieve the purpose of microwave heating and drying.

Microwave drying characteristics:

Short drying time, strong aroma of the product; Low drying temperature, uniform, bright color of

the product; Selective heating. Because water molecules absorb microwave best, the part with high water content absorbs more microwave power than the part with low water content. This is the characteristic of selective heating, which can be used to achieve uniform heating and drying; The direction of water and gas in drying and dehydration is from inside to outside. Therefore, microwave drying has puffing effect, which is helpful for subsequent comminution; Energy saving and high efficiency. Microwave directly acts on the material, so there is no additional heat loss. The air in the furnace and the corresponding container will not heat, so the thermal efficiency is very high, and the production environment is also significantly improved. Compared with far-infrared heating, it can save 30% electricity. Easy to control and advanced technology. Compared with the conventional method, the equipment is ready to use and has no thermal inertia and is flexible and convenient to operate.